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1 RECORD OF ORAL HEARING
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3 UNITED STATES PATENT AND TRADEMARK OFFICE
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6 BEFORE THE BOARD OF PATENT APPEALS
7 AND INTERFERENCES
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10 Ex parte HENNING HENNINGSEN
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13 Appeal 2008-4734
14 Application 09/402,751
15 Technology Center 2600
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18 Oral Hearing Held: January 14, 2009
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22 Before KENNETH W. HAIRSTON, MAHSHID D. SAADAT, and KARL
23 D. EASTHOM, Administrative Patent Judges
24

25 ON BEHALF OF THE APPELLANT:
26

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33 The above-entitled matter came on for hearing on Wednesday,
34 January 14, 2009, commencing at 9:20 a.m., at The U.S. Patent and
35 Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Lorie B.
36 Allen.
37

1 JUDGE HAIRSTON: You may begin.

2 MR. DREXLER: I'll admit this is my first oral hearing; so, feel free
3 to direct me as necessary to make this as most productive as possible.

4 JUDGE HAIRSTON: The floor is yours. Tell us what you want us to
5 know.

6 MR. DREXLER: Okay. I guess we'll get just right to it. This
7 application began ten years ago, filed as a PCT case. Actually, eleven years
8 ago, filed first in Denmark and then filed PCT and then brought here.

9 It has been a long prosecution in the U.S., a number of office actions,
10 a number of Examiners. It took us I think -- the sixth office action was filed.
11 So, we had five non-final actions; five non-finals before we reached a final,
12 and it was kind of one of these situations where we were seeing similar prior
13 art come up again and again, just under different patent numbers.

14 The invention is an arrangement for directing light from a source to a
15 light modulator for display purposes or for directing light to a light-sensitive
16 medium, like a rapid prototyping device, that sort of thing. So, very simple.
17 Light source. Light guides take the light from the source and distribute that
18 light to an arrangement of light modulators.

19 The claim is quite simple. The key is basically the last phrase of the
20 claim. I'm looking at claim 1: "It illuminates unit for point illumination of
21 medium comprising a plurality of light emitters comprised of light guides,
22 arranged to illuminate an illumination phase fee, a light valve arrangement
23 comprising plurality of electrically controlled light valves.""

24 And then here it is: "Each of at least two of the light emitters being
25 arranged to illuminate a plurality of light valves."

1 Said simply: You have a light source, a number of light guides, say,
2 fibers coming out of the light source, each fiber directed to a plurality of
3 electrically controlled light valves. So, each guide goes to a number of
4 electrically controlled light valves. I like to think of it as one to many. So,
5 you got one fiber going to many electrically controlled light valves. One to
6 many.

7 All the prior art that we have been faced with is opposite
8 configurations. Ten years ago, when this case was filed and when the
9 invention was made, the accepted technology was opposite. It was directing
10 many fibers to one single light modulator. The theory was: Bring as much
11 light to a single light valve as possible to increase the light output on the
12 valve. That's many fibers going to one valve.

13 Alternatively, the other accepted technology was bringing one fiber to
14 one valve, one to one. So, you can control the light that's input into a fiber
15 and know exactly what is being output on a single valve.

16 So, at the time of the invention, technology was one to one, one fiber
17 bringing light to one valve, or many fibers bringing light to a single valve.
18 Many to one.

19 JUDGE SAADAT: Mr. Drexler, your claim requires the plurality of
20 light emitters comprised of light guides.

21 MR. DREXLER: Yes.

22 JUDGE SAADAT: So, each light emitter could have more than one
23 light guide; correct?

24 MR. DREXLER: I'm sorry.

1 JUDGE SAADAT: The claim requires a plurality of light emitters
2 comprised of light guides. So, the light emitter, at least according to the
3 claim language, could have light guides which means more than one.

4 MR. DREXLER: Right. Right.

5 JUDGE SAADAT: Is that a fair interpretation?

6 MR. DREXLER: Yes.

7 JUDGE SAADAT: Could you explain to us what in Okamora which
8 was mentioned in your brief is different and does not read on that
9 interpretation?

10 MR. DREXLER: Okamora --

11 JUDGE SAADAT: I think it was figure two that the Examiner relied
12 on.

13 MR. DREXLER: Right. Okamora has a number of light branches,
14 216-B, 216-C, looking at figure two, 216-D, which bring light to single light
15 valves. The difference with the claimed invention is that we have a number
16 of -- at least two light emitters arranged to illuminate a plurality of light
17 valves.

18 So, Okamora's situation is where you have -- they disclose it both
19 ways. 216-B is a single branch and it's described in Okamora as either being
20 a bundle of fibers which is directed to the single light valve, 61, or it's also
21 described as -- it could just be a solid member that channels light. It could
22 be -- either way. On the one hand it could be many fibers that bring light to
23 the single valve, 61, or it could be a single fiber bringing light to the valve,
24 61.

25 What's important is that it's a single light valve in Okamora, 61.

1 JUDGE SAADAT: It seems like the Examiner has tried to interpret
2 the light guides 216-B, C, D and E as the light emitters; and to us, it seems
3 like the combination of 216-B and C could be one light emitter, and the
4 combination of 216-D and E could be another light emitter.

5 MR. DREXLER: Okay.

6 JUDGE SAADAT: And when we look at it that way, the Examiner's
7 position seems reasonable, that each of those two light emitters, each
8 comprising of light guides, would be arranged to illuminate a plurality of
9 light valves as shown like 61, 62 and 63, 64, corresponding to the two sets.

10 MR. DREXLER: Well, I suppose you could interpret it that way.
11 What we're trying to claim though is a single light emitter, two of one fiber
12 bringing -- you know, if you look at our figure, just to put it into context, our
13 figure one, our figure one shows light guides, three, which all extend from a
14 lamp or light source one to sub-areas, four. Each sub-area includes a
15 number of light valves. Figure two shows a closeup of the sub-area and a
16 closeup of the light guide.

17 So, the idea of the invention is that we have a single fiber, a single
18 light guide bringing light to a number of light valves as you see in our figure
19 one and two.

20 JUDGE HAIRSTON: So, why do you say each of at least two? Why
21 not just each light emitter being arranged to illuminate a plurality of light
22 valves? Why do you say two?

23 MR. DREXLER: Well, to show that it's a plurality. We really don't
24 need it. I mean, the invention is -- every light guide is going to a number of
25 light valves. So --

26 JUDGE HAIRSTON: The "two" is confusing.

1 JUDGE SAADAT: And also, you have two distinct elements, light
2 emitter and light guide. The light emitter comprises of light guides. So, it
3 seems like a bundle of fibers would be a light emitter; and the way you
4 explain the intention to have one fiber directed to each valve would be
5 different from what the claim -- I mean, as broadly as possible that we can
6 interpret that. You know, it doesn't preclude that a light emitter has multiple
7 fibers arranged in whatever configuration that is out there.

8 MR. DREXLER: Right.

9 JUDGE SAADAT: That's why we asked that question.

10 MR. DREXLER: No. I understand. I understand; and perhaps it is a
11 little confusing, looking at the claim language.

12 The light emitter is essentially a bundle. If you're looking at our
13 figure one, it would be -- the totality of all those light guides, three, could be
14 considered a light emitter and each one of the light guides going to a
15 plurality of valves.

16 JUDGE EASTHOM: So, the light guide is actually one single fiber?
17 That was your intention?

18 MR. DREXLER: The light guide would be the bundle, you know,
19 what you see in figure one, you know, the bundle of fibers; and then the light
20 guides are the individual fibers, the individual fibers going to a plurality of
21 light valves.

22 JUDGE EASTHOM: But one light emitter corresponds to one light
23 guide?

24 MR. DREXLER: One light emitter would -- yes. I'm sorry. I'm
25 getting my terms confused.

1 Number three in our figure are light guides. They're fibers. The
2 plurality of light emitters would be -- the light emitters would be a bundle.
3 So, you could have adjacent bundles, light emitters, bundles; and then each
4 bundle, each light emitter includes a number of light guides, those being,
5 say, fibers that go directly to --

6 JUDGE EASTHOM: Wait a second. Each emitter? Each emitter
7 comprises a bunch of light guides?

8 MR. DREXLER: Yes.

9 JUDGE EASTHOM: I think that's why we're having a problem with
10 Okamora because 216-B and 216-C -- that could be considered a guide; each
11 one of those are a guide, and two guides make one emitter.

12 MR. DREXLER: I'm sorry. Could you --

13 JUDGE EASTHOM: So, if you look at Okamora, figure two, 216-B
14 and 216-C are considered to be guides, light guides. Each one of those is a
15 light guide.

16 MR. DREXLER: Mm-hum.

17 JUDGE EASTHOM: So, those two light guides constitute one
18 emitter; and then the bottom two, 216-D and 216-E, those are each -- one of
19 them respectively a light guide, and those two constitute the second emitter
20 in your claim. And therefore, each emitter would illuminate plurality of
21 valves. Sixty-three and 64 would be from the bottom emitter, and then --

22 MR. DREXLER: So, one light emitter then would be 216-B
23 combined with 216-C, is what you're saying?

24 JUDGE EASTHOM: Yes.

25 JUDGE SAADAT: Yes.

1 MR. DREXLER: Yeah. The language is a little -- it is confusing in
2 the claim and it's -- I don't think it's been amended during prosecution. It
3 comes from a Danish to English translation. I don't think it's been revised so
4 much during examination. It's almost --

5 JUDGE HAIRSTON: You have to make it clear that each one of
6 those fibers is illuminating more than one light valve; right? I mean, that's
7 pretty much what you have to say?

8 MR. DREXLER: Yeah.

9 JUDGE HAIRSTON: Simply stated.

10 MR. DREXLER: Exactly.

11 JUDGE SAADAT: And based on Okamora, maybe the last part of
12 the claim should be at least two of the light guides rather than light emitters.

13 MR. DREXLER: Yeah. I agree. There's some confusion between
14 light emitters and light guides. I mean, our structure is different. I think
15 that's what been difficult. It's almost as if we just need to delete "light
16 guides" from the claim or "light emitters." One or the other, perhaps.

17 JUDGE SAADAT: My next question: Last week an information
18 disclosure statement was filed. Are you aware of that?

19 MR. DREXLER: Mm-hum. Yes.

20 JUDGE SAADAT: That was to submit a search report from an
21 international search.

22 MR. DREXLER: I believe so; yes.

23 JUDGE SAADAT: Okay. I just want to verify with you. The
24 document that was submitted was an international application of the same
25 application or it's a related application?

1 MR. DREXLER: I know that I saw that in here. Do you know when
2 that was filed?

3 JUDGE SAADAT: Friday, the 9th. January 9th.

4 MR. DREXLER: I am not aware of the information disclosure
5 statement filed January 9th. Did I sign it?

6 JUDGE SAADAT: I don't know. It's in the file. I can check.

7 MR. DREXLER: I'll look at it. Hang on. I have it right here.

8 JUDGE SAADAT: But the document that was submitted with IDS
9 seems like an international published application and sent by the same
10 inventor.

11 MR. DREXLER: It must be a related case of record. I'm sure it's a
12 related international case. We have a number of continuations filed relative
13 to this application, as well.

14 JUDGE SAADAT: Okay.

15 JUDGE EASTHOM: Your electronic signature is on the IDS. Daniel
16 Drexler; right?

17 MR. DREXLER: Okay. Yeah. I'm sure it came as a result of related
18 foreign prosecution.

19 JUDGE EASTHOM: Yeah. It came from a foreign office.

20 MR. DREXLER: And a copy of it hasn't made its way to this file yet.
21 I apologize.

22 JUDGE SAADAT: It says that the international search report, with
23 the English translation, was filed in Danish. So, it makes sense.

24 MR. DREXLER: Yeah. That would make sense.

25 JUDGE HAIRSTON: Counsel, your 20 minutes is up. Can I get you
26 to take one minute to sum up?

1 MR. DREXLER: Sure. Well, I'll stress that the invention, the
2 structure that is disclosed and that is attempted to be claimed is quite
3 different than what we see in Okamora.

4 As I explained, we're bringing a single fiber to a plurality of light
5 valves and it's very different than what is done in Okamora which is
6 bringing a number of fibers to a single valve. Sonehara, which you really
7 didn't discuss, is doing the same thing. It's bringing a number of fibers to a
8 single valve. So, our structure is different. The invention is quite different.
9 Perhaps we have some translational issues with the claim which we can
10 revisit.

11 But I have to thank you for your time and at least now I do have an
12 understanding of the interpretation of Okamora which we haven't been able
13 to get through the written documents.

14 JUDGE HAIRSTON: Okay. Any other questions?

15 MR. DREXLER: I thank you for your time.

16 JUDGE HAIRSTON: Thank you.

17 (Whereupon, at approximately 9:30 a.m., the proceedings were
18 concluded.)
19